# UNITED STATES PATENT AND TRADEMARK OFFICE

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| 10/534,211 | 01/23/2006 | Shaohua Yu | 18017-004US1/C05W0012/02U | 5190 |

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| EXAMINER |
|---|
| HO, CHUONG T |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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PATDOCTC@fr.com

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/534,211 | YU, SHAOHUA |
| | Examiner | Art Unit | |
| | CHUONG T. HO | 2419 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☒ Responsive to communication(s) filed on <u>09 August 2008</u>.
2a)☐ This action is **FINAL**.          2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) <u>1,3-11 and 13-22</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1,3-7,9-11,13-17 and 19-22</u> is/are rejected.
7)☒ Claim(s) <u>8 and 18</u> is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some *  c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>01/23/06</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

## DETAILED ACTION

1.      The preliminary amendment filed 08/09/08 have been entered and made of record.

2.      Claim 1, 3-10, 11, 13-22 are pending.

### *Information Disclosure Statement*

3.      The information disclosure statement (IDS) submitted on 01/23/06 was filed.  The submission is in compliance with the provisions of 37 CFR 1.97.  Accordingly, the information disclosure statement is being considered by the examiner.

### *Claim Objections*

4.      Claim 3 is  objected to because of the following informalities:  Claim 3, line 1 has been written as  -- The data transmission apparatus according to **claim 1**, further comprising a ring  management unit -- ; .  Appropriate correction is required.

5.      Claims 8, 18 are  objected to because of the following informalities:  the acronym "CWDM / DWDM" should be spell out.  Appropriate correction is required.

6.      Claim 13  is  objected to because of the following informalities:  Claim 13, line 1 has been written as -- The data transmission method according to **claim 11**, further comprising the step of controlling the use of the ringlets in one aggregate pipe --. Appropriate correction is required.

## *Double Patenting*

7.      Claims 1, 3-7, 10, 11, 13-17, 19-22  are rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1, 21, 22 of U.S.

Patent No. 7,382,789  in view of claim 1 of US Patent No. 7,486,614 .

Regarding to claim 1, Yu '789 discloses a data transmission apparatus used in a

multiple service ring (claim 21, multiple service ring) including at least two nodes

coupled to at least one aggregate pipe and at least one tributary, said apparatus

comprising:

a tributary RX framer (claim 21, first tributary RX framing) coupled to a tributary for

deframing (claim 21, col. 41, lines 15-20, deframing) data frames received from said

tributary and extracting (claim 21, col. 41, lines 15-20, extracting) a destination node

address;

a TX framer (claim 21, a first TX framing) for encapsulating (claim 21, col. 41, lines 20-

27, encapsulating) the destination node address and the data received from the

tributary into frames of the multiple service ring and transmitting the same along an

aggregate pipe to a downstream neighbor node in the ring;

a RX framer (claim 22, col. 41, lines 30-50, a second RX framing) for receiving and

deframing (claim 22, col. 41, lines 30-45, deframing) data frames of the multiple service

ring from a upstream neighbor node along an aggregate pipe to obtain (claim 22, col.

41, lines 30-45, extracting) at least a destination node address and actual data;

a filter (claim 22, col. 41, lines 30-45, a second RX filtering) for determining (claim 22,

col. 41, lines 30-45, determining)data frames for local node according to the destination

node address, and forwarding the other frames to said TX framer so as to forward the

other frames to a next node;

a tributary TX framer (claim 22, col. 41, lines 48-52, the tributary TX framing) for

encapsulating (claim 22, col. 41, lines 30-45, converting) said data frames for local node

into tributary data frames and sending the tributary data frames to a corresponding

tributary.

However, Yu '789 is silent to disclosing wherein each aggregate pipe comprises

a N-ring structure consisting of N-M unidirectional ringlets and M unidirectional counter-

rotating ringlets, where N and M are integers and 1 <= M < N.

Yu '614 discloses wherein each aggregate pipe comprises a N-ring (dual ring, N=

2) structure consisting of N-M unidirectional ringlets (the examiner means N =2, M =

1)and M (M = 1) unidirectional counter-rotating ringlets (a pair of unidirectional count

rotating ringlets), where N and M are integers and 1 <= M < N (claim 1, col. 53, lines 23-

27, N = 2, (dual ring), pair of unidirectional ringlets comprises one unidirectional ringlet

and one unidirectional count rotating ringlet).

Thus, it would have been obvious to one of ordinary skill in the art at the time of

the invention to apply the teaching of Yu '614 into the system of Yu '789; since Yu '614

recited the motivation in col. 1, lines 50-52 which develops Multiplex service flow base

on RPR and to provide the following capabilities such as the technology encapsulation

and transport of Ethernet Frame relay.

Regarding to claim 3, Yu '789 discloses the limitations of claim 1 above.

However, Yu '789 is silent to disclosing the data transmission apparatus according to claim 2, further comprising a ring management unit for controlling the use of the ringlets in one aggregate pipe, including assigning a specific (n-1)-th ringlet for transporting data packets in said (n-1)-th ringlet in unidirectional direction and a n-th ringlet for transporting control packets in said n-th ringlet in the opposite direction, where $1 < n <= N$.

Yu '614 discloses the data transmission apparatus according to claim 2, further comprising a ring management unit for controlling the use of the ringlets in one aggregate pipe, including assigning a specific (n-1)-th ringlet for transporting data packets in said (n-1)-th ringlet in unidirectional direction and a n-th ringlet for transporting control packets in said n-th ringlet in the opposite direction, where $1 < n <= N$ (claim 34, claim 40, ringlets).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teaching of Yu '614 into the system of Yu '789; since Yu '614 recited the motivation in col. 1, lines 50-52 which develops Multiplex service flow base on RPR and to provide the following capabilities such as the technology encapsulation and transport of Ethernet Frame relay.

Regarding to claim 4, Yu '789 discloses the limitations of claim 3 above.

However, Yu '789 is silent to disclosing the data transmission apparatus according to claim 3, wherein said n-th ringlet as a control channel of (n-1)-ringlet is also

set default as a protection channel of (n-1)th ringlet in the case of fibre facility failure or

signal degradation of (n-1)th ringlet

Yu '614 discloses the data transmission apparatus according to claim 3, wherein said n-

th ringlet as a control channel of (n-1)-ringlet is also set default as a protection channel

of (n-1)th ringlet in the case of fibre facility failure or signal degradation of (n-1)th ringlet

(claim 34, claim 40, ringlets).

Thus, it would have been obvious to one of ordinary skill in the art at the time of

the invention to apply the teaching of Yu '614 into the system of Yu '789; since Yu '614

recited the motivation in col. 1, lines 50-52 which develops Multiplex service flow base

on RPR and to provide the following capabilities such as the technology encapsulation

and transport of Ethernet Frame relay.


Regarding to claim 5, Yu '789 discloses the data transmission apparatus according to

claim t, further comprising a tributary identifier setting-up means for setting-up an

identifier for indicating the originating tributary, and said tributary identifier are

encapsulated together with the destination node address and the data received from the

tributary into frames of the multiple service ring (claim 21, encapsulation).


Regarding to claim 6, Yu '789 discloses the data transmission apparatus according to

claim 5, further comprising a tributary determining means for determining the tributary

type and tributary No. from the data frames for local node, so as to send said tributary

data frames to the corresponding tributary (Claim 21, determining).

Regarding to claim 7, Yu '789 discloses the limitations of claim 1 above.

However, Yu '789 is silent to disclosing the data transmission apparatus according to

claim 6, wherein said data frames of the MSR are FE/GE/10GE MAC frames.

Yu '614 discloses  the data transmission apparatus according to claim 6, wherein said

data frames of the MSR are FE/GE/10GE MAC frames (claim 16, claim 29, MAC

frames).

Thus, it would have been obvious to one of ordinary skill in the art at the time of

the invention to apply the teaching of Yu '614 into the system of Yu '789; since Yu '614

recited the motivation in col. 1, lines 50-52 which develops Multiplex service flow base

on RPR and to provide the following capabilities such as the technology encapsulation

and transport of Ethernet Frame relay.


Regarding to claim 10, Yu '789 discloses The data transmission apparatus according to

claim 1, wherein each aggregate pipe includes link and broadcast topologies (claim 5,

claim 10, broadcast).


Regarding to claim 11,  Yu '789 discloses a data transmission method used in a multiple

service ring (col. 41, lines 15-28, claim 21, multiple service ring) including at least two

nodes coupled to at least one aggregate pipe and at least one tributary, said method

comprising the steps of:

for data frames from a tributary (col. 41, lines 15-28, claim 21, data frames from a

tributary),

receiving and deframing (col. 41, lines 15-28, claim 21, deframing) data frames from

said tributary (claim 21, a first tributary RX framing) and extracting (claim 21, extracting)

a destination node address; and

encapsulating (col. 41, lines 15-28, claim 21, encapsulating) the destination node

address and the data received (claim 22, receiving) from the tributary into frames of the

multiple service ring and transmitting the same along an aggregate pipe to a

downstream neighbor node in the ring;

and for data frames from a upstream neighbor node along an aggregate pipe,

receiving and deframing (col. 41, lines 30 - 45, claim 22, deframing) data frames of the

multiple service ring from the upstream neighbor node along the aggregate pipe to

obtain (col. 41, lines 30 – 45, claim 22, extracting) at least a destination node address

and actual data;

determining (col. 41, lines 30 – 45, claim 22, determing) data frames for local node

according to the destination node address, and forwarding the other frames to a next

node; and

encapsulating (col. 41, lines 30 – 45, claim 22, converting) said data frames for local

node into tributary data frames and sending the tributary data frames to a corresponding

tributary

However, Yu '789 is silent to disclosing wherein each aggregate pipe comprises a N-

ring structure consisting of N-M unidirectional ringlets and M unidirectional counter-

rotating ringlets, where N and M are integers and 1 <= M < N.

Yu '614 discloses wherein each aggregate pipe comprises a N-ring (dual ring, N = 2) structure consisting of N-M (M = 1, N (2) – M (1) =1) unidirectional ringlets and M (M = 1) unidirectional counter-rotating ringlets (pair of unidirectional count rotating ringlets) , where N and M are integers and 1 <= M < N (claim 1, col. 53, lines 23-27, N = 2, (dual ring);  pair of unidirectional ringlets comprises <u>one</u> unidirectional ringlet and <u>one</u> unidirectional count rotating ringlet).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teaching of Yu '614 into the system of Yu '789; since Yu '614 recited the motivation in col. 1, lines 50-52 which develops Multiplex service flow base on RPR and to provide the following capabilities such as the technology encapsulation and transport of Ethernet Frame relay.

Regarding to claim 13, claim 13 is rejected the same reasons of claim 3 above.

Regarding to claim 14, claim 14 is rejected the same reasons of claim 4 above.

Regarding to claim 15, claim 15 is rejected the same reasons of claim 5 above.

Regarding to claim 16, claim 16 is rejected the same reasons of claim 6 above.

Regarding to claim 17, claim 17 is rejected the same reasons of claim 7 above.

Regarding to claim 19, claim 19 is rejected the same reasons of claim 9 above.

Regarding to claim 20, claim 20 is rejected the same reasons of claim 10 above.

Regarding to claim 21, Yu '789 discloses the limitations of claim 3 above.

However, Yu '789 is silent to disclosing wherein one of the N ringlets is set as a

protection channel for the other ringlets.

Yu '614 discloses wherein one of the N ringlets is set as a protection channel for the

other ringlets (claim 6, claim 7, protection or standby channel).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the

invention to apply the teaching of Yu '614 into the system of Yu '789; since Yu '614

recited the motivation in col. 1, lines 50-52 which develops Multiplex service flow base

on RPR and to provide the following capabilities such as the technology encapsulation

and transport of Ethernet Frame relay.

Regarding to claim 22, Yu '789 discloses the limitations of claim 13 above.

However, Yu '789 is silent to disclosing wherein one of the N ringlets is set as a

protection channel for the other ringlets.

Yu '614 discloses wherein one of the N ringlets is set as a protection channel for the

other ringlets (claim 6, claim 7, protection or standby channel).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the

invention to apply the teaching of Yu '614 into the system of Yu '789; since Yu '614

recited the motivation in col. 1, lines 50-52 which develops Multiplex service flow base

on RPR and to provide the following capabilities such as the technology encapsulation

and transport of Ethernet Frame relay.

8.      Claim 8 is  rejected on the ground of nonstatutory obviousness-type double

patenting as being unpatentable over the combined system (Yu '789 - Yu '614)   in view

of claim 1 of US Patent No. 7,428,211.

Regarding to claim 9, the combined system (Yu '789 - Yu '614) disclose the limitations

of claim 8 above.

However, the combined system (Yu '789 - Yu '614)  are silent to disclosing The data

transmission apparatus according to claim 8, wherein said N=I, and M=0, which means

the aggregate pipe include a single fibre ring, and all the data frames and control frames

are transported in said single fibre ring .

Yu '211 discloses wherein said N=I, and M=0, which means the aggregate pipe include

a single fibre ring, and all the data frames and control frames are transported in said

single fibre ring (claim 36, single fibre ring)

        Thus, it would have been obvious to one of ordinary skill in the art at the time of

the invention to apply the teaching of Yu '211 into  the combined system (Yu '789 - Yu

'614), since Yu'211 recited the motivation in the col. 1, lines 50-55 which provides data

transmission apparatus and method used as RPR MAC Client in MSR based on RPR

including RPR Lite for meeting the above needs.


### *Allowable Subject Matter*

9.      Claims 8, 18 are  objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims.


### *Conclusion*

10.     The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Yu (Patent No.: US 6,961,348 B2).

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to CHUONG T. HO whose telephone number is (571)272-

3133.  The examiner can normally be reached on 8:00 am to 4:00 pm.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, EDAN ORGAD can be reached on (571) 272-7884.  The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CH
03/07/09

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